

10. On some new or little-known Spiders from Madagascar.

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(Plate LVII.)

In a large collection of Arachnida made by the Rev. Deans Cowan in Madagascar I found a few specimens of very great interest; amongst these the species of the remarkable genus *Cærostris* have already formed the subject of a paper in the 'Annals and Magazine of Natural History' for August last. In addition to many other singular forms were specimens of the curious tailed species *Arachnoura scorpionoides* of Vinson, from Central Madagascar and the Betsileo country, of the beautifully coloured *Peucetia lucasii* from the east coast, of *Latrodectus geometricus*, two examples of the extraordinary *Erauchenus workmanni* of Cambridge, a specimen of the equally bizarre *Augusta papilionacea* of the same author, and, last but not least, four specimens of his beautiful *Phoroncidia aurata* (to which last I shall have occasion to refer later on).

THERIDIIDÆ.

CHRYSSO, O. P. Cambridge.

This genus was founded in the present year (P. Z. S. 1882, p. 429), for the reception of two small Spiders from the Amazons and Ceylon. I now have to add two more from Madagascar.

1. CHRYSSO CORDIFORMIS, sp. n. (Plate LVII. fig. 2.)

♀. Falces, maxillæ, labium, sternum, and legs of a clear pale yellow colour; the cephalothorax above black, with pale yellow margins; abdomen above black, ornamented with four large transverse pyriform snow-white spots, two in front and two at the back; ventral surface dark chocolate-brown.

Cephalothorax oblong, rather narrow, slightly expanded towards the back; caput projecting in front of the eyes, in the middle, and with a slight indentation in the centre of its anterior margin, which is represented by the base of the falces: lateral eyes small, placed longitudinally at the side of the head, of equal size; the anterior pair forming a nearly straight (slightly concave) line with the anterior pair of central eyes; the latter are twice as large as the lateral eyes and are nearer together than the posterior central pair; the posterior central eyes are larger than the lateral ones, and are separated from the anterior central pair by a slightly wider interval than from one another; the eyes of the central oculiferous area therefore form an unequal square, the lateral and central posterior eyes forming a nearly straight line: abdomen convex, cordiform, pointed behind; legs cylindrical, sparsely setose, 1, 4, 2, 3. Entire length 2 millim.

Two examples: Central Madagascar.

This and the following are allied to *C. quadrata* of Ceylon; if therefore the latter should be removed from the genus, they must go with it.

2. *CHRYSO NIVIPICTUS*, sp. n. (Plate LVII. figs. 1, 1 a.)

♀. Falces, maxillæ, labium, sternum, and legs of a clear pale yellow colour; the cephalothorax above black, with a lateral (almost marginal) pale yellow stripe on each side of the thoracic region; abdomen above black, spotted with white as follows:—two small dots in the centre of the anterior region, two large transverse oval spots, one on each side behind these, two small spots beyond the middle, followed immediately by three large almost confluent spots, the central one transverse and with a small spot behind it; ventral surface shining black.

Cephalothorax slightly broader than long, expanded laterally in a regular arch behind the caput, and depressed at the back; caput similar in form to that of the preceding species, but the base of the falces rather more strongly indented in front; the anterior central and lateral eyes are also similar, but the posterior central eyes are smaller; the central oculiferous area represents a cone, the apex of which is truncated; between the two central pairs of eyes is a long bristle directed forwards and emitted from behind the eyes; the lateral margins of the head are sharply carinated and divided by a broad oblique shallow groove from the thoracic region; the abdomen is quadrate, diamond-shaped, the lateral and posterior angles acute and spine-like, the dorsal surface very convex, rugose, the stigmata represented by shallow depressions, the ventral surface is keeled; the legs are slender, cylindrical, sparsely setose, their relative length 1, 4, 2, 3. Entire length of body and cephalothorax $2\frac{1}{2}$ millim.

One example: Central Madagascar.

THWAITESIA, O. P. Cambridge.

This genus was described last year (P. Z. S. 1881, p. 766) for a Cingalese species; and in this year's 'Proceedings' two additional species from the Amazons were added (see above, pp. 431, 432).

3. *THWAITESIA PULCHERRIMA*, sp. n. (Plate LVII. figs. 7, 7 a, b.)

Nearly allied to *T. margaritifera*, from which it differs apparently in the form of the abdomen and its somewhat brighter coloration; the abdomen is ornamented above with a large brown cruciform marking which passes into the lateral articulations.

♀. The cephalothorax is pale yellow, adult examples having a more or less defined longitudinal dorsal carmine-red band from the oculiferous region backwards; the eyes are black; the legs agree in colour with the cephalothorax; the articulations of the tibiæ and metatarsi of all the legs are more or less strongly banded with carmine, a portion of the extremities of the metatarsi being also red, excepting those of the front pair of legs, which are brown: the fine

scattered bristles upon the legs and a narrow band at the extremities of the joints below black; I can trace no black spines upon the genual joints; the palpi are pale yellow, as also are the maxillæ, labium, and sternum. The abdomen above and at the sides is of a shining silver colour, the dorsal region being ornamented by a broad brown cross, the arms of which are expanded at the extremities; the sides are reticulated with dark brown, and thus divided up into sharply defined plates, somewhat as in *T. margaritifera*; the ventral surface is dirty yellow.

Cephalothorax oval, strongly indented behind the caput, which ascends obliquely from the thoracic region: the eyes are arranged much as in *T. margaritifera*; but the anterior pair are smaller and closer together, so that the six remaining eyes, which are larger, form triangular groups of three contiguous eyes on each side: the legs are long, slender, sparsely setose, their relative length 4, 1, 2, 3; the palpi are moderately long and cylindrical, the falces also cylindrical. The abdomen is less acute at the dorsal angle than in *T. margaritifera*, and viewed from behind is seen to be obtusely tuberculated at the sides just below the apex; the terminal angle, however, is decidedly more acute; the posterior margin is also much less oblique; the bristles upon the abdomen are confined to the ventral surface. Length 5 millim.

Central Madagascar and east coast.

The articulations of tibiæ of the second and third pair of legs are sometimes not banded with carmine.

EPEIRIDÆ.

META, Koch.

4. META SPLENDIDA, sp. n. (Plate LVII. figs. 3, 3a, b.)

♂ ♀. Cephalothorax, palpi, front of falces, and legs fulvous; apex of falces, labium, and sternum piceous; maxillæ castaneous. Abdomen above bright metallic silvery, with two large elongated blackish patches in front, behind which is a broad transverse crescent-shaped, blackish-edged golden band, united in the centre by a short pedicle to a broad longitudinal dorsal band of the same colour, streaked obliquely on each side with blackish and spotted with silver¹; sides and ventral surface brown, dark and olivaceous when dry, paler in spirit, with four longitudinal silver stripes, two sub-dorsal and two ventral, but all four lateral.

Cephalothorax large, depressed, expanded behind the caput; sutural impression strongly defined, V-shaped; eyes black, rather small, arranged across the front of the caput; the central eyes slightly larger than the lateral, in the form of a quadrangle, the anterior eyes scarcely perceptibly nearer together than the posterior ones, from which they are separated by a distinctly greater interval than the posterior eyes from one another; lateral eyes contiguous, one behind the other, much less obliquely than in *M. Simon's* figure (Hist. Nat.

¹ In some examples these markings are pale and brassy, the extremities of the crescent are also often continued round so as to join the dorsal band.

p. 237); falces large, powerful, cylindrical, narrowing towards the culm, where in the male there is a powerful curved spine; three strong acute teeth on each side; movable claw long, acute, and curved; palpus of male rather long, with the bulb large, globular, and shining, altogether quite normal in structure, hairy; abdomen oblong, rounded behind, truncated and obtusely humped in front, the anterior portion being distinctly higher than the posterior, but depressed transversely behind the anterior border, ventral surface very slightly convex; legs long, slender, very sparsely setose, their relative length 1, 2, 4, 3. Entire length, ♂ $6\frac{1}{2}$ millim., ♀ 11 millim.

East coast of Madagascar.

PHORONCIDIIDÆ.

PHORONCIDIA, Westwood.

5. PHORONCIDIA AURATA. (Plate LVII. figs. 4, 4 a.)

Phoroncidia aurata, Cambridge, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. p. 31, pl. vii. fig. 9 (1877).

Four examples of this rare and extremely beautiful species were obtained in the Betsileo country by Mr. Cowan. Two of these are typical, the abdomen being of a fiery golden colour, with black spines upon red bases; the two others are considerably larger, and the abdomen is of a metallic silver colour, the spines black with red-brown bases, and the ocellations black. This form I propose to indicate as var. *argentata* (fig. 4 b).

GASTERACANTHIDÆ.

GASTERACANTHA, Simon.

6. GASTERACANTHA COWANI, sp. n. (Plate LVII. figs. 5, 5 a.)

This species will fall into the subgenus *Isacantha*, and comes nearer to a much larger (apparently undescribed) species, a dried example of which we possess from Ceylon, than to any thing else that I have seen.

♂. Cephalothorax, palpi, and legs blackish piceous; tarsi banded with horn-yellow; maxillæ, labium, sternum, and abdomen black; abdomen above shining blackish, the anterior border narrowly sordid yellow, a central longitudinal interrupted line commencing in an elongated pentagonal spot in the middle of the anterior border pale ochreous.

Cephalothorax quadrate, tumid on each side behind the caput, with strongly defined central impressed line, abruptly shelving at the back; eyes arranged much as usual, the central pairs forming a nearly equilateral quadrangle, the posterior pair slightly larger, and therefore apparently wider apart than the anterior pair; lateral eyes small, and forming the apices of the anterior angles of the caput, which ascend obliquely in the form of depressed cones from the sutural depression between the caput and the tumid thoracic region;

falces large and powerful, the movable claw curved and tapering to a fine point; palpi short, but with rather long, subcylindrical, slightly incurved, pointed, hairy terminal article; legs as usual short and hairy, with the femora somewhat flattened; sternum pentagonal, scutiform. Abdomen transverse, unequally hexagonal, the angles mammoid, terminating in short acute spines, somewhat ascending; the form of the abdomen, irrespectively of the angles, forms a truncated cone rather wider than long; the anterior margin is convex in the centre and projects at the anterior angles in the form of an obtuse tubercle in front of the anterior spines; the dorsal surface is nearly flat, slightly convex, granulose-punctate, with the impressed spots represented by rather large shallow depressions; the ventral surface is strongly granulose, shelving, and deeply pitted at the sides, convex and transversely plicated in the centre. Entire length, including the posterior pair of spines, 4 millim.; width of abdomen, including spines, at widest part, $5\frac{1}{2}$ millim., at posterior lateral spines 4 millim.

Two examples: Central Madagascar.

It is possible that this may be the male of some species described from the female; but if so, the form of the abdomen differs so much as to preclude a cabinet-naturalist from determining to which species it should be assigned.

ULOBORIDÆ.

ULOBORUS, Latreille.

7. ULOBORUS VELUTINUS, sp. n. (Plate LVII. figs. 6, 6 a, 6 b.)

Cephalothorax, sternum, and coxal joints of legs dull black, covered with white pilosity; when dry the cephalothorax is brown with a white dorsal spot; remainder of legs whitish, the femora indistinctly barred with red-brown, the tibiæ partly red-brown, the hairy clothing partly tipped with black; tarsi yellowish, with black terminal articles; abdomen dull velvety-black, with four whitish dots in an arched series across the front, a broad transverse oblong yellowish patch on each side before the middle, two minute white specks in the dorsal region between the latter, and two small white spots towards the posterior extremity, ventral surface greyish.

Cephalothorax bell-shaped, shelving, slightly depressed behind the caput; eyes arranged much as usual¹, but the posterior lateral eyes as large as the posterior central pair: abdomen oval, shelving obliquely in front and behind; viewed laterally it is cuneiform with the short anterior margin arched; the edge of the transverse ridge is depressed in the middle, leaving two obtuse humps, one on either side; ventral surface deeply and transversely depressed behind the spinnerets, convex and irregularly plicated behind this depression; legs 1, 4, 2, 3, the anterior pair long, the femoral and tibial articles thick and slightly compressed, the tibiæ fringed towards the distal extremity with hair, tarsi slender; remaining legs comparatively weak, cylindrical. Entire length 5 millim.

East coast of Madagascar.

¹ See Simon, Hist. Nat. des Araignées, p. 244.

EXPLANATION OF PLATE LVII.

- Fig. 1. *Chrysso nivipictus*, p. 764. 1 a. Eyes.
 2. — *cordiformis*, p. 763.
 3. *Meta splendida*, p. 765. 3 a. Eyes. 3 b. Male palpus.
 4. *Phoroncidia aurata*, p. 766. 4 a. Eyes. 4 b. Var. *argentata*, in profile.
 5. *Gasteracantha cowani*, p. 766. 5 a. Eyes.
 6. *Uloborus velutinus*, p. 767. 6 a. Eyes. 6 b. Profile.
 7. *Thwaitesia pulcherrima*, p. 764. 7 a. Eyes. 7 b. Profile.

11. On some Points in the Anatomy of the Indian Tapir
 (*Tapirus indicus*). By W. NEWTON PARKER, Lecturer
 on Biology at the University College of Wales,
 Aberystwyth.

[Received December 9, 1882.]

(Plates LVIII., LIX.)

While acting as Prosector to the Society during Mr. Forbes's absence in W. Africa, I have had the opportunity of dissecting a young male Indian Tapir, a few points in the anatomy of which I now lay before the Society.

The animal, which only arrived at the Gardens in July last, was probably about eighteen months old when it was unfortunately found necessary to kill it, on October 9th, on account of its suffering from an incurable *prolapsus ani*. It measured about four feet from the tip of the nose to the tip of the tail, and had not grown perceptibly since its arrival in this country.

On opening the body the lungs were found to be much diseased, and presented considerable adherence to the thoracic cavity; the liver was also very soft. There were decided traces of rickets, the sternal ribs having several nodular enlargements.

The general anatomy of the Indian Tapir has been described by Home¹, Cantor², Poelman³, and Murie⁴. Some points, however, have not received much attention; and in others there seems to be a considerable amount of variation. I therefore trust that the following account of certain of the organs will not be without interest.

The Alimentary Canal.—The hard palate presented the usual double row of transverse ridges, of which there were seventeen on the left side and eighteen on the right. The naso-palatine canals open on each side of a small elevation about $\frac{2}{3}$ inch from the posterior border of the middle incisors. The soft palate embraces the base of the epiglottis, much as in the Horse.

The tongue has a pointed apex, and increases slightly in breadth from before backwards. It measured 8 inches in length and $2\frac{3}{8}$ inches in breadth at the base. Its upper surface is covered by delicate filiform papillæ. Fungiform papillæ are also numerous, and

¹ Phil. Trans. 1821, p. 272.

² Journ. Asiat. Soc. vol. xv. 1846, p. 263.

³ Mém. de l'Acad. Roy. de Belgique, tom. xxvii. 1853.

⁴ Journ. Anat. and Physiol. vol. vi. 1871, p. 131.